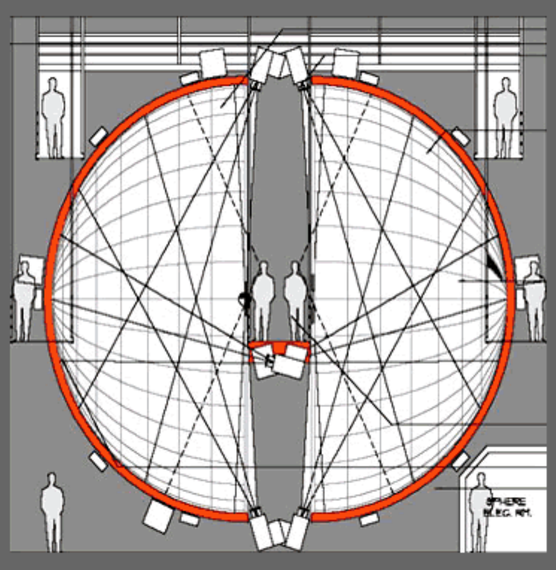
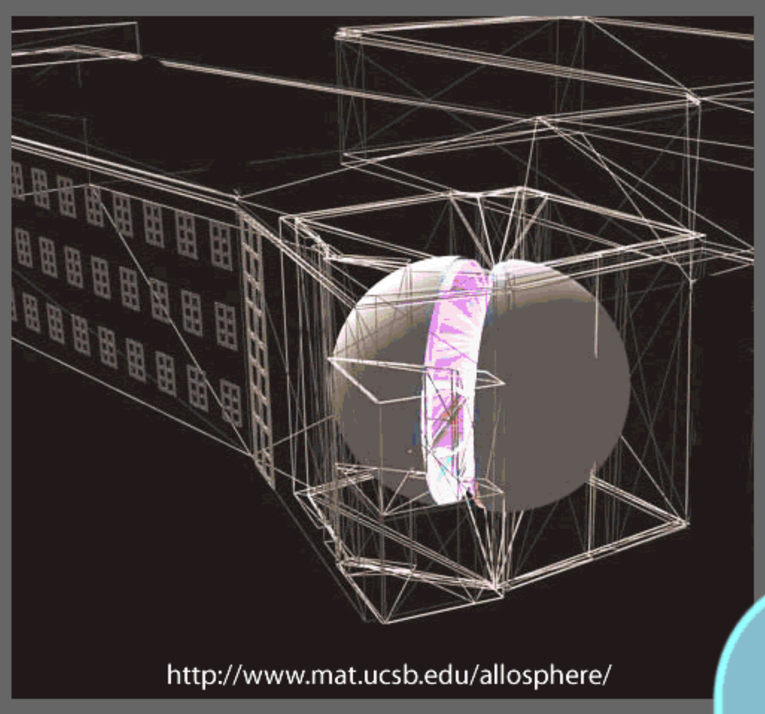
University of California at *Santa Barbara*



ALLOSPHERE



In one of our research test beds, visual artists and composers will work with physicists and materials scientists in a multi-resolution simulation of crack propagation in silicon, showing seamless integration between finite elements, molecular dynamics (1-2M atoms), and electronic structure simulations. We will fly through the material behind the crack tip, watching the atoms rip apart and seeing the electron bonds breaking as it happens. We will sonify the ordered phononic structure that occurs as shock waves propagate from the crack tip through the material.

contact: brent.oster@cnsi.ucsb.edu

***The California Nanosystems Institute** and the **Allosphere Research Group in the Media Arts and Technology Program**, brings together novel multidisciplinary research groups in which artists play a significant role in working with scientists in the generation, representation and dynamic transformation of scientific data. By using the artists' creative process of visualization and sonification of mathematical data, we seek to uncover new patterns of information in the scientific data. Scientists and artists working together to represent their data in new forms, with engineers in research teams, will allow for the development of a general purpose distributed media computing system designed by application.*

Web Standards at UCSB

http://www.ucsb.edu/webguide/

In January 2007, UCSB launched a set of recommendations for campus Web standards to promote **usability, accessibility, and identity** among UCSB Web sites.

A task force of **Web professionals from across the campus** worked together for twenty months to develop the first set of standards. IT planning and advisory groups, together with major administrative units, reviewed and approved the recommendations. An **ongoing review** procedure allows the campus to update and add to the Web recommendations as technologies and laws evolve.

Areas addressed by the recommendations include:

- Graphic Identity
- Browsers
- Code Validation
- Character Encoding
- Screen Resolution
- Title and Meta Tags
- Policy Compliance
- Web Accessibility

Together with the standards, the Web Guide features developer resources including **best practices** examples, **image** resources, and links to **discussion groups, policy and style guides**, and **site analysis** and **validation tools**.

Questions? Send email to **webstandards@ucsb.edu**.

KRONOS

On August 1, 2006, after several months of planning and preparation, **Housing & Residential Services** went live with a new Time & Attendance system – **Kronos Workforce Central**.

Previously, time was managed differently in each of Housing's 6 units with most of the calculations and work done manually. Now all 1400 Housing employees' attendance information is recorded in one centralized database via networked timeclocks and computers, calculations are automated, and payroll information is transmitted electronically.

The system is web-based using **Java** with a **SQL 2000** database backend. In the next year Housing hopes to upgrade to **Workforce Central version 6** on **SQL 2005**.

UCSB is interested to hear how other campus have managed their Kronos systems. Contact Sunny Reiner: sreiner@housing.ucsb.edu, if you are willing to share.

Course Management Systems

Sakai @ UCSB

LSCF MOODLE

LIFE SCIENCES COMPUTING FACILITY

UCSB is currently conducting simultaneous pilots of Sakai and Moodle.

In Fall 2007, we plan on running Sakai 2.4 and Moodle 1.8. Both systems are pointing to a CMS ROSTER system the CMS team (1.5 FTE) is managing. We've had a combination of large (450) and small classes, and classes with over 25 sections. The decision to fund a central CMS system at UCSB hasn't been decided yet.

The focus of the pilots is to learn about different open source CMS systems and to collect inputs from faculty on what features are important and what systems they like.

UCSB is co-hosting the SakaiCal Symposium with the Claremont Colleges in July of 2007 and is a member of the Moodle Digital Teaching and Learning Consortium (DTLC).

contact: steve.miley@ic.ucsb.edu

RESNET WILL BE OFFERING THE FOLLOWING ADDITIONAL SERVICES FOR FALL 07:

(1) WIRELESS ACCESS FOR ALL RESIDENTS WITH 802.1X AND WPA2 (PEAP/MSCHAPV2)

(2)REMOTE LASER PRINTING – PRINTING FROM ANYWHERE / ANYTIME TO FRONT DESK LASER PRINTERS

WWW.HOUSING.UCSB.EDU/RESNET

CONTACT BPRICE@HOUSING.UCSB.EDU

Business Process Integration Thru Software Engineering

Service Oriented Architecture (SOA) is typically seen as a way to increase re-use of common code functions and reduce software development and maintenance costs. At UCSB, we have realized that SOA concepts can also be used as a method by which software engineers can assist business experts integrate business processes across the enterprise. The Information Systems Office (ISO) is actively engaged in the use of SOA concepts to help business leaders achieve business process integration with minimal user impact or training.

THE HYPOTHESIS

1. Most business managers (department directors, managers) are too focused on the processes for which they have "ownership" to spend much time considering the efficiency of enterprise processes
2. Since the central IT staff is involved automating most or all enterprise business processes, the IT staff is the perfect resource to engineer the processes and devise a method to instantiate the processes.
3. SOA concepts are a convenient method to achieve consistent business process instantiation.

THE APPROACH

ISO software lifecycle processes have begun incorporating the following guiding principles
1. Abstract process from infrastructure
2. Identify opportunities to generalize functions into services
3. Expose services for shared use
4. Migrate existing implementations to standard services as opportunities present themselves
5. Utilize services to support new implementations
6. Evolve services and service interfaces as processes and process uses evolve
7. Integrate services to instantiate (and enforce where necessary) business processes across the enterprise
8. Make process service engineering part of the software lifecycle process (look for opportunities and understand when processes are evolving).•

THE RESULTS

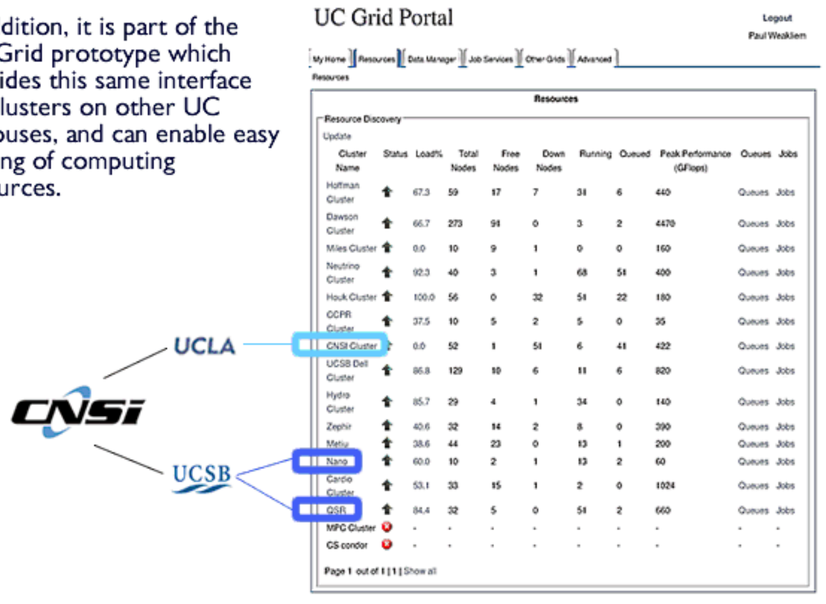
We have been able to expose several services related to financial transaction construction and processing, Chart of Accounts interfaces, and authentication/authorization. We have been commissioned to undertake a formal Business Process Engineering task to focus of Accounting and Procurement processes. This task will help identify additional targets of opportunity.

contact: doug.drury@isc.ucsb.edu

California NanoSystems Institute

UCSB has deployed UCLA's ATS Grid Portal software to provide a consistent web interface for all of the member clusters at UCSB.

In addition, it is part of the UC Grid prototype which provides this same interface for clusters on other UC campuses, and can enable easy sharing of computing resources.



CNSI is actually two institutes at both UCSB and UCLA with collaborative research, and this model extends this collaboration to the high performance computing resources as well.

contact: weakliem@cnsi.ucsb.edu

Intellectual Property Web Search

UC SANTA BARBARA engineering

Engineering and the Sciences at UC Santa Barbara have facilitated quick access to available intellectual property through its industry center web site. Designed to help companies interested in discovering what technology is available for licensing, the web page has a robust search function in 15 broad categories, including such areas as biotechnology and communications, to energy, instrumentation, materials and telecommunications.

The portfolio data base, which includes about 500 technologies in a wide range of fields, has been made publicly available to help businesses develop effective and productive relationships with UCSB, and to make it easier for them to access and apply UCSB's innovation to serve society's needs. The web search portfolio is updated daily.
The portfolio of available intellectual property is managed by the Office of Technology and Industry Alliances at UCSB. That office has the unique authority to sign and negotiate both research and license agreements, and can design collaborations that include a combination of both activities.
The Available Technologies web page is found at: **www.engineering.ucsb.edu/industry/technologies**

contact: bbgray@engineering.ucsb.edu

FACILITIES MANAGEMENT DEPARTMENT

Highlights in Technology

⇨ **Terminal Server migration near completion, from individually installed workstation software, to multiple centralized server software.**

⇨ **Beginning installation and testing of Virtual PC/Servers.**

⇨ **Conversion from existing department run FDDI Network, to campus maintained backbone.**

⇨ **Addressing departmental and campus requirements to replace older and less efficient application systems. Our objective is to provide effective control, interface, timeliness, maintainability and reduce redundancy, for multiple existing systems and stand-alone applications. Current applications under review:**
a) Contract Tracking System
b) Facilities Management Accounting System.

⇨ **DBMS migration, from multiple DBMS varieties, to a common DBMS, which is MS SQL Server.**

contact: richard.schmidt@fm.ucsb.edu